

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A method, comprising:

applying predictions of congestion conditions for a traffic stream in a communication network to increase an initial congestion window size for the traffic stream up to an advertised window size of a client receiving the traffic stream; and

applying dynamic bandwidth control to the traffic stream by modulating bandwidths of the traffic stream, ~~independent of increasing the window size for the traffic stream,~~ according to a capacity of a bottleneck in a communication path through which the traffic stream passes in the communication network, wherein the dynamic bandwidth control is concurrently applied to the traffic stream to ensure that congestion is not induced by applying predictions of congestion conditions to the traffic stream.

2. (canceled)
3. (original) The method of claim 1 wherein the predictions of congestion conditions are based on one of: (1) monitoring packet losses within the communication network, or (2) monitoring packet round trip time in the communication network.

4. (original) The method of claim 3 wherein the monitoring is performed on at least one of a traffic stream-by traffic stream basis, a connection-by-connection basis, a link-by-link basis, or a destination-by-destination basis.
5. (original) The method of claim 4 wherein the monitoring is performed for a period between 0 and 100 seconds.
6. (original) The method of claim 5 wherein the monitoring is performed for a period of time between 30 and 100 seconds.
7. (original) The method of claim 5 wherein the monitoring is performed for a period of time between 50 and 100 seconds.
8. (original) The method of claim 5 wherein the monitoring is performed for a period of time between 60 and 100 seconds.
9. (currently amended) A method comprising:
 - setting an initial congestion window for a traffic stream in a communication network according to predicted congestion conditions for that traffic stream, increased up to an advertised window size of a client receiving the traffic stream; and
 - rate limiting the traffic stream, ~~independent of increasing the window size for the traffic stream,~~ to an effective bandwidth associated with a potentially

congested bottleneck in a communication path over which the traffic stream is transmitted, wherein rate limiting the traffic stream acts as a back up to ensure that congestion is avoided between periods of setting the congestion window size.

10. (original) The method of claim 9 wherein the rate limiting comprises setting a minimum time spacing between packets within the traffic stream.

11. (canceled)

12. (original) The method of claim 9 wherein the rate limiting comprises setting the effective bandwidth equal to a maximum transfer rate allowed by the potentially congested bottleneck in the communication path.

13. (previously presented) The method of claim 9 wherein the rate limiting is applied using a feedback control process to modulate bandwidths in the traffic stream.

14. (original) The method of claim 13 wherein the feedback control process is applied at a control node upstream of the potentially congested bottleneck in the communication path.

15. (original) The method of claim 9 wherein the predicted congestion conditions are based on one of: (1) monitoring packet losses within the communication network, or (2)

monitoring packet round trip time items in the communication network.

16. (original) The method of claim 15 wherein the monitoring is performed for a period between 0 and 100 seconds.

17. (original) The method of claim 16 wherein the monitoring is performed for a period of time between 30 and 100 seconds.

18. (original) The method of claim 16 wherein the monitoring is performed for a period of time between 50 and 100 seconds.

19. (original) The method of claim 16 wherein the monitoring is performed for a period of time between 60 and 100 seconds.

20. (currently amended) A communication network comprising one or more communication paths between one or more content sources and one or more clients, at least one of the communication paths including a control node configured to set an initial congestion window for a traffic stream transmitted over the at least one communication path according to predicted congestion conditions for that traffic stream, increased up to an advertised window size of a client receiving the traffic stream and to rate limit the traffic stream, ~~independent of increasing the window size for the traffic stream,~~ to an effective bandwidth associated with a potentially congested bottleneck in the at least one communication path over which the traffic stream is transmitted.

wherein rate limiting the traffic stream acts as a back up to ensure that congestion is avoided between periods of setting the congestion window size.

21. (original) The network of claim 20 wherein the control node is configured to rate limit the traffic stream by setting a minimum time spacing between packets within the traffic stream.

22. (original) The network of claim 20 wherein the control node is configured to rate limit the traffic stream by setting the effective bandwidth equal to a maximum transfer rate allowed by the potentially congested bottleneck in the communication path.

23. (previously presented) The network of claim 20 wherein the control node is configured to rate limit the traffic stream by applying a feedback control process to modulate bandwidths in the traffic stream.

24. (original) The network of claim 23 wherein the control node is upstream of the potentially congested bottleneck in the at least one communication path.

25. (original) The network of claim 20 wherein the at least one communication path is selected on the basis of prior packet losses thereon.